



Forest Health Protection

Pacific Southwest Region



Date: January 24, 2012
File Code: 3400

To: Stephanie McKee, Silviculturist, Weaverville Ranger District, Shasta-Trinity National Forest

Subject: Trip report following initial site visit to Soldier Project Area to determine suitability for WBBI funding (FHP Report N12-01)

At the request of Stephanie McKee, Vegetation Management Planner (Shasta-Trinity NF), a site visit was made to the soldier Project Area on January 11, 2012. The objectives were to assess the current stand conditions, evaluate the project for potential funding through the Forest Health Protection (FHP) Western Bark Beetle Initiative (WBBI). Stephanie McKee, Randi Paris (S-T), Nick Goulette (WRTC), and Cynthia Snyder (FHP) were present.

Background

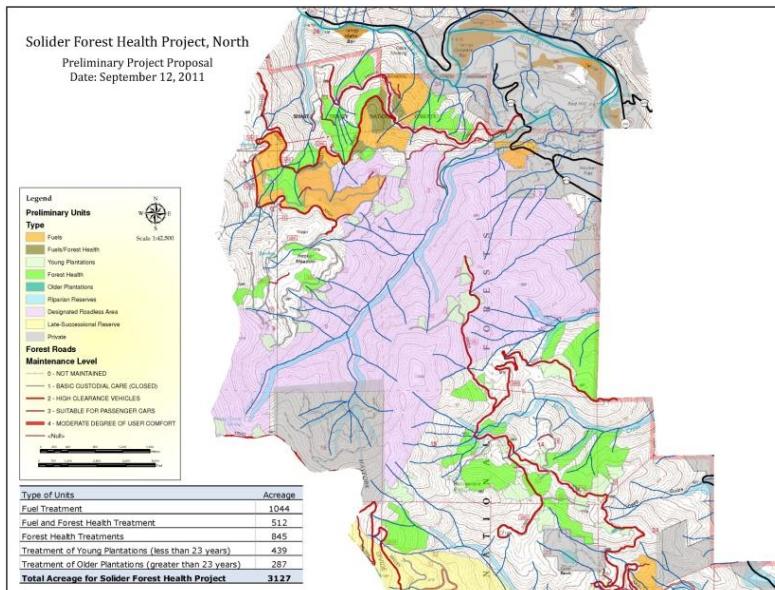


Figure 1. Map of northern portion of Soldier Project.

south and north are separated by Designated Roadless Area most of which was burned in the 2008 Eagle Fire. Approximately 95% of the project acres are in the Trinity River WUI. The project area also encompasses Hocker Meadow, a unique fen-like feature currently experiencing conifer encroachment.

The Soldier Project involves thinning and fuels reduction treatments on approximately 3,000 acres (currently identified). The project area is located in the Big Creek Watershed, with stands near Soldier Creek and Big Creek in the southern portion and Conner Creek in the northern portion (T33N R9W Sections, 3, 4, 5, 8, 9, 10, 11, 13, 14, 15, 17, 21, 22, 23, 24, 25, 26, 27 and T33N R9W Sections 32, 33, 34, Mt. Diablo Meridian). The

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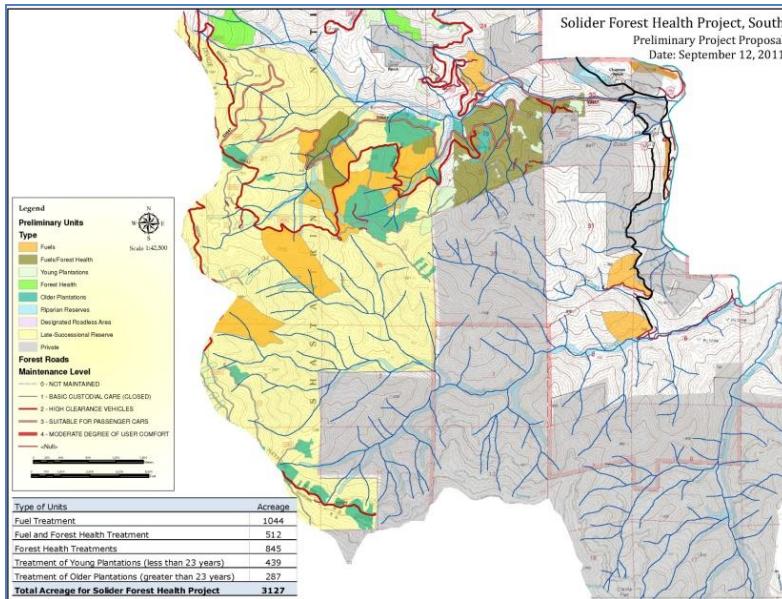


Figure 2. Map of southern portion of Soldier Project Area.

Action will likely include thinning natural stands and plantations in all size classes and treatment of all surface and ladder fuels through piling and burning as well as understory/broadcast burning. Opportunities to utilize the thinned material as commercial sawlogs, personal firewood, or other types of biomass will be explored.

Stand exam data was provided for the initially identified 50 units providing an indication of species composition, stocking, mean diameters and other characteristics. From the initial data three stands were chosen to visit based on criteria of prominent pine component, mean diameter of pine species over 7 inches and total stand density index (SDI) over 200.

Observations

The first stop was to Stand 41 (N 40° 41.697', W 123° 03.826', elevation 2,527 ft). This was a natural mixed conifer stand with a heavy pine component, ponderosa pine (*Pinus ponderosa*) and sugar pine (*P. lambertiana*), an ingrowth of Douglas-fir (*Pseudotsuga menziesii*) and a vigorous hardwood component including Pacific madrone

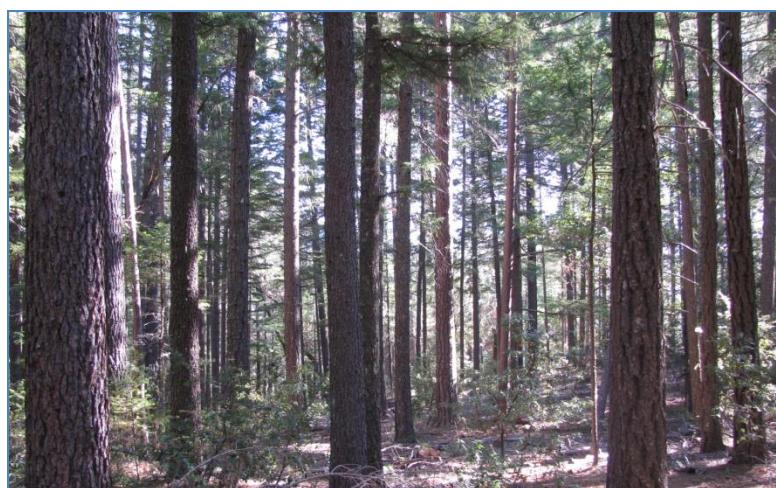


Figure 3. Stand 41 is a natural mixed conifer and hardwood stand. Many sugar pine and Douglas-fir shown with an understory of canyon live oak.

The Purpose and Need responds to concerns of stakeholders including the Trinity County Community Wildfire Protection Plan and members of the general public regarding fire hazard/risk, high fuel loading and general poor forest health within the project planning area; to reduce potential insect, disease and fire threats for resources; and to maintain suitable stand growth, improve tree vigor, and provide an economic return. The Proposed

(*Arbutus menziesii*) and canyon live oak (*Quercus chrysolepis*). The understory was primarily made up of sugar pine, Douglas-fir and hardwoods. Evidence of past logging was present in scattered large old sugar pine and Douglas-fir stumps (>30 inches diameter) and more recent firewood cutting (groups of stumps <14 inches diameter).

The stand was very dense (SDI 355) with the mean diameter of pine at 4-17 inches. The diameter is skewed due to the abundance of sugar pine regeneration. Many of the mature pine were well over 14-20 inches DBH. This makes much of the pine component at high risk of bark beetle-caused mortality from western pine beetle in ponderosa pine and mountain pine beetle in ponderosa and sugar pine. There was very little evidence of current insect activity. A small patch of ponderosa pine and sugar pine (2 PP and 1 SP) had broken tops, possibly from the heavy snows over the past couple of winters, and were starting to attract wood borers. There were fruiting bodies of red ring rot (*Phellinus pini*) found on pole-sized Douglas-firs and sugar pines.

The stated desired condition of the stand was a mix of mature and younger ponderosa and sugar pine with healthy Douglas-fir in suitable micro-sites and scattered hardwoods including Pacific madrone and canyon live oak. This would entail removal of much of the current small Douglas-fir and thinning the pine component, preserving the healthiest and most vigorous (based primarily on crown characteristics) conifers and hardwoods in all size classes. This would not be economically feasible as a commercial sale and would most likely be offered as a stewardship contract.

>We next stopped at Stand 44 (N 40° 41.141', W 123° 03.714', elevation 2,714 ft). This area would best be described as a "plantation gone wild". It appears to have been planted with 50% ponderosa pine and 50% Douglas-fir, grouped by species. Current diameters of the plantation trees is 7-14 inches, with a mean about 8 1/2 inches. There are scattered large old stumps (3-5 feet diameter) indicating the site was historically a much more open pine site. Understory

is comprised of Douglas-fir and sugar pine with some hardwoods including Pacific madrone, canyon live oak and California black oak (*Quercus kelloggii*).

There were no indications of current insect activity in the stand and no evidence of root disease was noted in the remaining stumps. However, the stand is very dense (total SDI



Figure 4. Stand 44 is a ponderosa pine and Douglas-fir plantation "gone wild". Dense conditions prevent much understory development.

323) with pines well within the range of host suitability for western pine beetle and mountain pine beetle attack. Thinning would increase pine vigor and reduce risk of bark beetle-caused mortality. There are many such plantations within the project area all of which are reported to be similar to this one.

>We then moved to the northern portion of the project area driving past the Designated Roadless Area burned in the 2008 Eagle Fire. Most of the pine-sites seen on this side had a much smaller pine component. Pines were generally found on the south-facing slopes of the ridgeline above Conner Creek. The pine component was very patchy in distribution, thinned somewhat by the fire and appeared relatively healthy. This appears to be more of a fuel reduction issue than forest health.

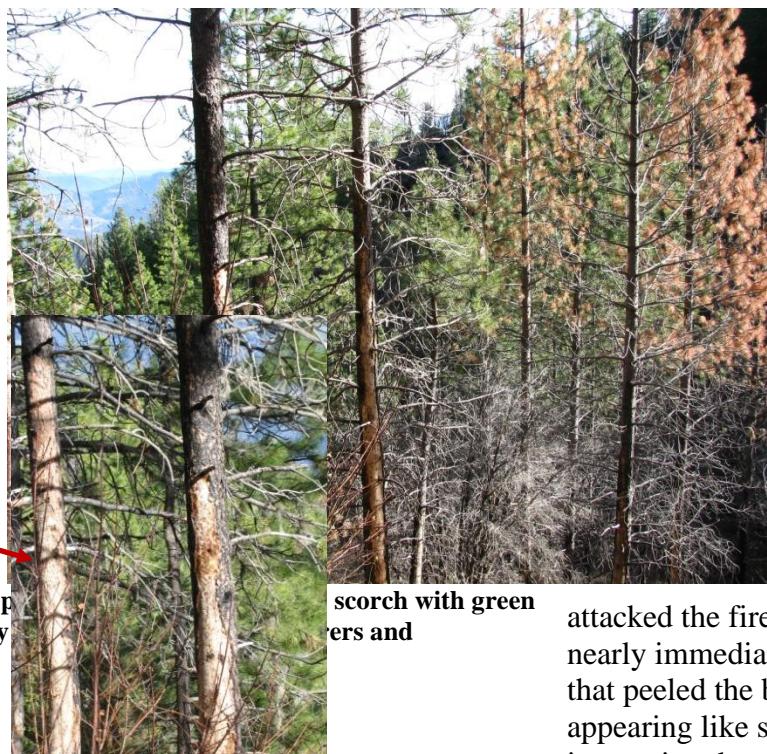


Figure 5. Ponderosa pine trees, also affected by woodpeckers.

scorch with green
ers and

We stopped at a small pocket of ponderosa pine mortality before visiting Hocker Meadow. The trees had scorch around 100% of the stems at the base and up to 6 feet on the downhill side of the trees. These trees had the bark stripped off and evidence of wood borers. Adjacent green trees also had the bark stripped and evidence of wood borers but no sign of western pine beetle was found. Wood borers

attacked the fire-scorched trees and were nearly immediately set upon by woodpeckers that peeled the bark and made holes appearing like shot-holes in the sapwood, interesting, but not a significant find.

Hocker Meadow is not really a meadow; it is actually more of a fen. It is unique in that it has hydric soils and riparian species that may be of interest to the Forest Soil Scientist and Forest Botanist. Fire scorch is noted at the base of many trees and many more have fallen because of fire damage to the root system. This unique area should be looked at for treatment under a fuels reduction and perhaps investigated for protection from further conifer encroachment.

Discussion

The southern portion of the Soldier Project Area fits well with Western Bark Beetle Initiative guidelines for opportunity to reduce risk of bark beetle-caused mortality. It lies primarily in WUI making the protection of communities a key concern. The stands have a high proportion of large diameter ponderosa and sugar pine with heavy ingrowth of

Douglas-fir creating high levels of stress on the pine. There is a large component of oak and madrone making the stands desirable for wildlife habitat. There are many options for management that may incorporate restoring pine/oak systems, improving wildlife habitat, small commercial components for generating income and/or interest and biomass options for small operations. The protection of the large diameter pines and associated watersheds is a great opportunity to partner with the Forest silviculture, fuels and wildlife departments and local NGO's and advocate groups such as the California Deer Association, Turkey Federation and the Watershed Research and Training Center.

The northern portion, beyond the 2008 Eagle Fire, had far less large diameter pine and appeared to be a much more fuel reduction oriented project. I suggested that FHP would be less interested in funding acres in this mostly Douglas-fir mixed conifer type with such a small component of pine, and very few large diameter pines. These stands are extremely dense, many dog-hair thick and thus highly stressed. However, bark beetle risk would still be less than wildfire risk with the mixture so heavy to Douglas-fir. This portion would be a great site to incorporate biomass thinning and fuels reduction; perhaps moving the species composition toward a more equitable mix of Douglas-fir, pines, incense cedar and hardwoods.

Hocker Meadow provides the opportunity to also partner with outside interests. The hydric soils are of interest to Forest soil scientists as the vegetation is to Forest botanists. This is a unique site that I believe would benefit from fuels reduction. Fuels reduction should be oriented to reduce conifer encroachment and restore the fen-like nature of the site.

If you have any questions regarding this report and/or need additional information, please contact Cynthia Snyder at 530-226-2437 or Pete Angwin at 530-226-2436.

/s/ Cynthia Snyder

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